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Weed IDENTIFICATION GUIDE

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INTRODUCTION

A weed is any plant growing in an area where it is not wanted. We try to control weeds because they compete with crops for light, moisture, space and nutrients. Certain weed species can harbor plant diseases and insect pests. Other species may be poisonous, allergenic or irritant to humans and/or livestock. Medical and economic problems such as illness, death, rashes, hayfever, or a reduction in quality of fur, meat and milk products may result.

Weeds have many unique characteristics which make them extremely difficult to control. Most produce a tremendous number of seeds. The seeds of some weed species may be dormant for many years, with only a small percentage germinating each year. Weeds generally mature earlier than the crop and often seeds will be dropped before crop harvest and remain in the field. Weeds are generally more competitive than crops and can often survive under unfavorable growing conditions.

Early identification of emerged weed species is critical for choosing the best weed control methods. This guide will enable you to identify weeds at three growth stages.

Summer annuals complete their lifecycle from seed to maturity in less than one year. They germinate in the spring, mature, set seed and die in the fall. Winter annuals germinate in the fall, overwinter as seedlings or small rosettes and mature, set seed and die the following spring or early summer. Some weeds are capable of both the summer and winter annual lifecycle.

Biennials complete their lifecycles in less than two years. Germination and the production of an overwintering rosette of leaves occur the first year. The second year, flowering, seed production, and plant death occur. Control is best obtained during the first year.

Perennials live for more than two years. They reproduce vegetatively from roots, rhizomes, buds, or tillers, or from seed, or both. They can be especially difficult to control because of their persistent root systems.

Several weed control options are available. Prevention is the most practical and economical form of weed control. Always use certified seed, clean off farm implements when traveling from field to field, control weeds in fence lines, right-of-ways, irrigation ditches etc. Be alert for new weeds on your farm, so they can be

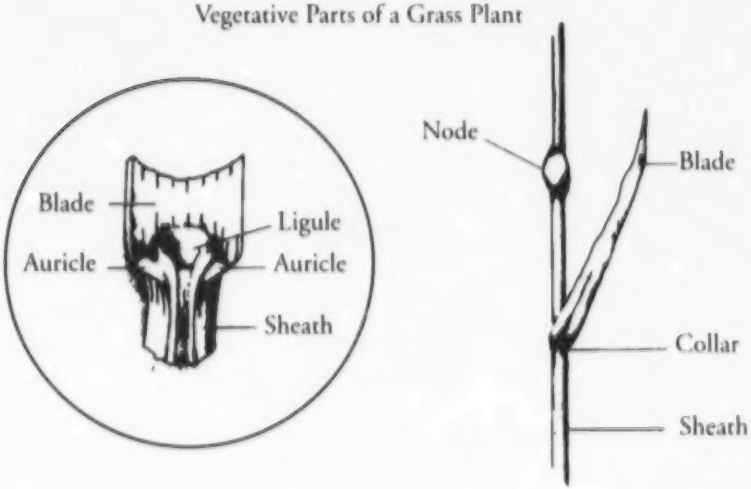
controlled before they become a serious problem. Mechanical control may utilize hoeing, timely cultivation (excellent for seedlings and annuals), and mowing to prevent seed production. Cultural control may utilize techniques such as proper grazing management, good soil fertility practices, proper drainage, rotation and choosing good competitive crop varieties to encourage maximum crop competition. Biological control is the control of weeds with plant pathogens or insects. Several of our most troublesome pasture weeds can be controlled with this method, for example, tansy ragwort is controlled by the cinnabar moth. Chemical control utilizes various herbicides to control weeds. Weeds must be correctly identified in order to select a herbicide that will be effective. Herbicides will be most effective on annual and biennial weeds during the seedling stage. Herbicides will be most effective on perennial weeds during the seedling stage or just prior to flowering (bud stage) or in the fall.

Remember to always read the label of the herbicide to determine crops registered, weeds controlled and safety precautions.

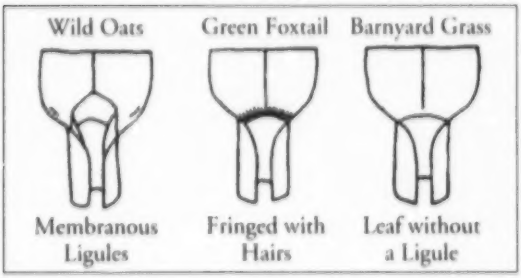
The best weed control program will not rely on one control method, but rather, will integrate several methods of weed control.

SEEDLING GRASS IDENTIFICATION

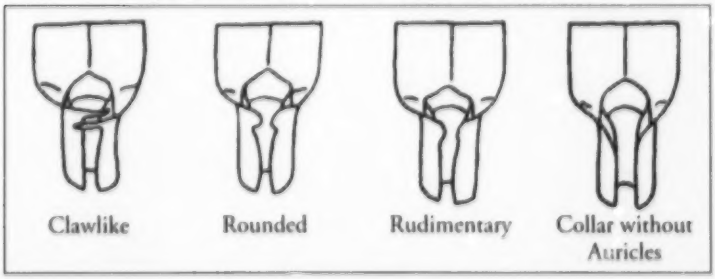
Vegetative Parts of a Grass Plant



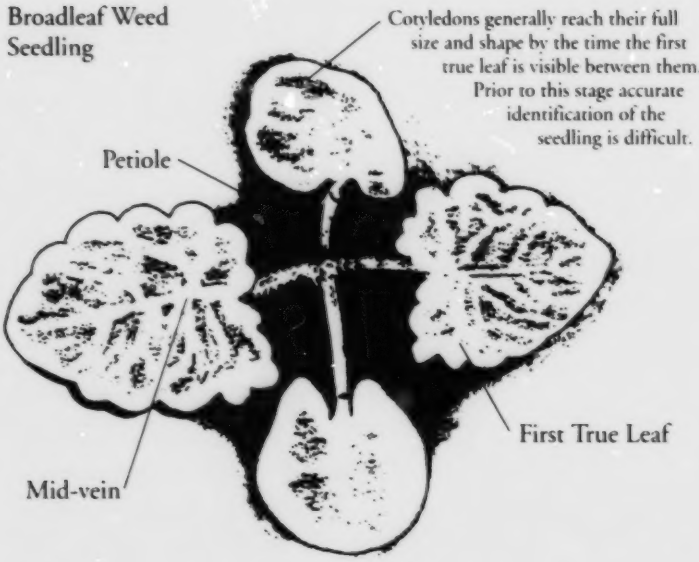
Types of Ligules



Shapes of auricles and a collar without auricles.



BROADLEAF WEED IDENTIFICATION

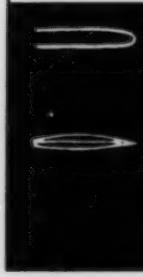

Broadleaf Weed Seedling
Cotyledons generally reach their full size and shape by the time the first true leaf is visible between them. Prior to this stage accurate identification of the seedling is difficult.
Petiole
First True Leaf
Mid-vein

To use table:

a) Compare first true leaf shape with shape in left hand column.

b) When similar shape is located turn to page indicated and compare true leaves in photos with weed specimen for identification.

Note: Weed species are arranged according to first true leaf shape. Leaf shape may change as weed matures.

First True Leaf	Weed	Description	Page
	Corn Spurry Horsetail, Field	Leaves are needle shaped and first leaves are usually whorled.	10 21
	Cudweed, Low	Leaves are linear and first leaves in tight rosettes. Later leaves can vary.	12

Bladder Campion	Leaves tapering at each end.	3
Hawkweed, Mouse-eared	Entire, toothed, or wavy-edged margins. Leaves have	19
Lady's Thumb	rounded or pointed tips.	22
Milkweed, Common		24
Ox-eye Daisy		26
Purslane		29
Toadflax, Yellow		41
Wormseed Mustard		25
Bull Thistle	Leaves deeply wavy. Fairly	38
Canada Thistle	regular indentations giving	39
Shepherd's Purse	a lobed appearance. Oblong shaped leaf.	35
Burdock, Common	Leaves egg shaped to oval.	4
Chickweed, Common	Entire, toothed or slightly	6
Chickweed, Mouse-eared	wavy margins. Leaves have rounded ends or tapering	7
Fleabane, Canada	to a point.	15
Plantain, Broad-leaved		28
Redroot Pigweed		32
Stitchwort, Grass-leaved		36
Field Violet	Leaves egg shaped to oval.	14
Groundsel, Common	Margins are regularly	18
Hempnettle	notched like a saw or rounded teeth.	20
Coltsfoot	Leaves egg shaped, oval to	9
Dandelion	triangular. Margins are	13
Goldenrod	irregularly and coarsely	17
Lambsquarters	toothed or wavy.	23
Perennial Sow Thistle		40
Yellow Rocket	Leaves circular or disc shaped sometimes kidney shaped. Generally broader than long, rounded teeth or distantly toothed or wavy margins.	49
Sheep Sorrel	Leaves arrow-head shaped	34
Wild Buckwheat	or heart-shaped with basal lobes. Margins entire or distinctly toothed or wavy.	43

Cleavers/Smooth Bedstraw	Leaves in a whorl. Several identical leaves arranged in a whorl around each node on the stem.	8
Wild Radish Tansy Ragwort	Leaves divided. Margins with irregular lobes. Enlarged terminal lobe with smaller lateral lobes.	46 37
Pineappleweed Ragweed, Common Scentless Chamomile Stinking Mayweed Wild Carrot Yarrow	Has leaflets arranged along each side of a common stalk. Outline oblong, oval or roughly triangular. Leaflets may be further divided. Narrowly linear to disc-shaped, entire or lobed margins.	27 31 33 33 44 48
Buttercup, Tall/Creeping	Leaves having lobes, divisions etc. spreading from a single point. Leaf outlines generally disc-shaped.	5
Black Medick	Leaves split into 3 leaves or divisions (like clover).	2
Vetch, Tufted	Has regular leaflets arranged along each side of a common stalk. Leaves oval or tapering to each end and are separate and of equal size.	42
Barnyard Grass Crabgrass, Small Foxtail, Green/Yellow Quackgrass Wild Oats Witchgrass		1 11 16 30 45 47

BARNYARD GRASS

Echinochloa crusgalli (L.) Beauv.

Summer Annual
Reproducing by seed
and nodes rooting at soil contact

Stem
Erect or horizontally
spreading
Seedlings have flat stem with
purplish base
Hollow with swollen nodes
May be branched

True Leaves
Usually hairless
No auricle or ligule
Broad, slightly rough

Flowers
Branched panicles
Flowering from July
to September

Habitat
Cultivated fields,
barnyards, waste areas

Note
Common where moisture
is adequate
Seeds may attract
some birds

BLACK MEDICK

Medicago lupulina L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Oval, short, pale

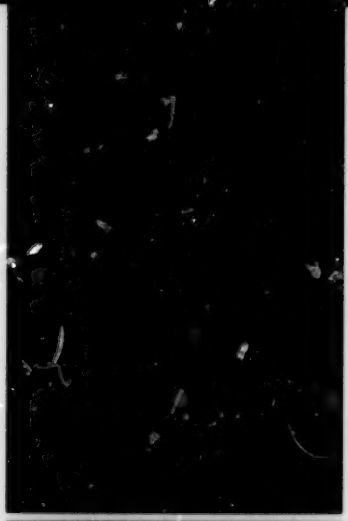
STEM
May be erect
Usually prostrate and spreading
Hairy

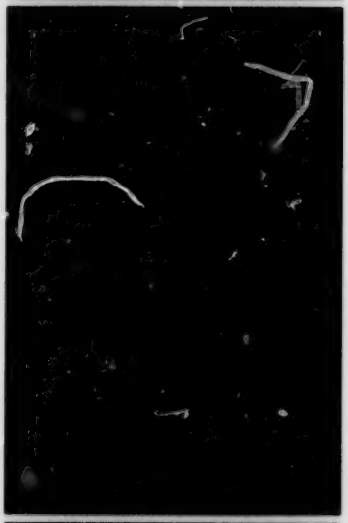
TRUE LEAVES
Three leaflets with central
leaflet on a long stalk
Leaves toothed above the middle
Hairy central leaf

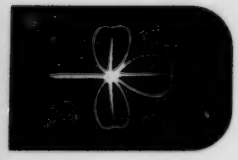
FLOWERS
Small, yellow, dense clusters
at ends of stalks
Clover-like flower

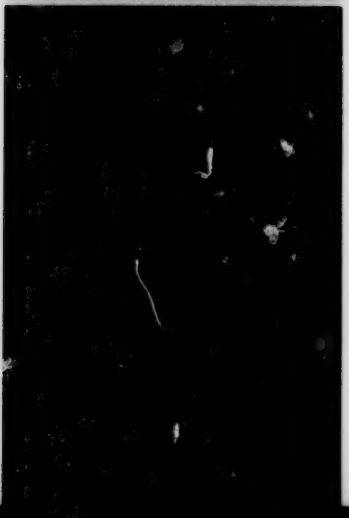
HABITAT
Pastures, occasionally in
cultivated fields

NOTE
Twisted black seedpods
form soon after flowering









BLADDER CAMPION

Silene Cucubalus Wibel

PERENNIAL
Reproducing by seed and
rooting crown branches

COTYLEDONS
Oblong

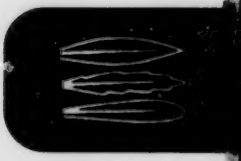
STEM
Erect
Branching from base

TRUE LEAVES
Opposite
Long, narrow to ovate
United at base
Waxy texture
Upper leaves prominently
veined

FLOWERS
Clusters at end of branches
Smooth papery balloon
capsule with purplish veins
running through it
Five white petals (two cleft)
extending from the capsule

HABITAT
Pastures, roadsides, waste areas

NOTE
White cockle similar but
has hairy elongated teeth
at top of balloon capsule



BURDOCK, COMMON

Arctium minus (Hill) Bernh

BIENNIAL
Reproducing by seed

COTYLEDONS
Spoon shaped,
Waxy surface

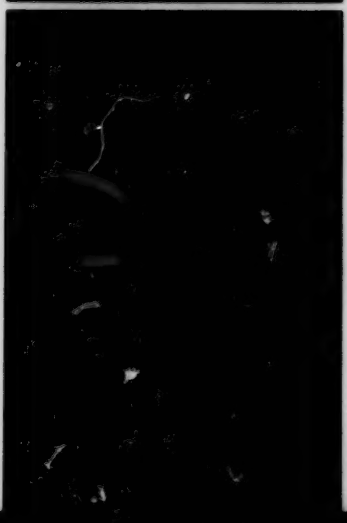
STEM
Erect, branched,
Hollow, hairy
Grooved lengthwise

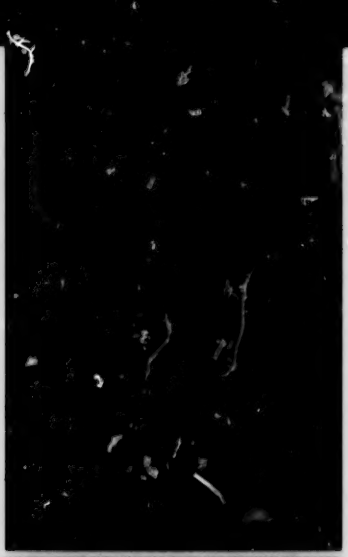
TRUE LEAVES
Large rosette first year
Leaves later alternate
Coarsely veined
Soft white hair on underside

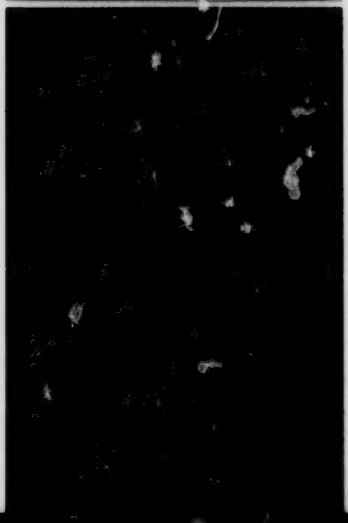
FLOWERS
Purple
Heads grouped and surrounded
by bracts (outer bracts have
hooks) and burs

HABITAT
Pastures, roadsides, waste areas

NOTE
Burs easily attach to fur,
hair, or clothing
Leaves resemble rhubarb







BUTTERCUP, TALL/CREEPING

Ranunculus acris L.
R. repens L.

PERENNIAL
Reproducing by seed
R. repens - also by runners

COTYLEDONS
Round to oval
Stalked

STEM
Clustered, branched
Hairy
Creeping: prostrate
Tall: erect

TRUE LEAVES
Long-stalked
Alternate, soft
Hairy on both sides of leaf
Creeping: stalked with
3-part leaf blade
Tall: stalked with
5-part leaf blade

FLOWERS
Bright yellow overlapping petals
Numerous

HABITAT
Damp fields, low ground,
meadows, some cultivated fields

NOTE
Poisonous if grazed
Not harmful if dried in hay

CHICKWEED, COMMON

Stellaria media (L.) Cyrillo

SUMMER OR WINTER ANNUAL
Reproducing by seed

COTYLEDONS
Oval with pointed tip

STEM
Spreading, weak
One line of hairs along stem
of mature plants
Branched

TRUE LEAVES
Opposite
Oval to round with pointed tip
One line of hairs along stems
of lower leaves
Upper leaves stalkless

FLOWERS
Five small deeply notched
white petals
Star-shaped

HABITAT
Grain fields, pastures, and
cultivated areas

NOTE
Good crop competitor due to
its shade tolerance
Rooting stem nodes form mats

CHICKWEED, MOUSE-EARED

Cerastium vulgatum L.

PERENNIAL
Reproducing by seed and
horizontal rooting stems

COTYLEDONS
Oval with pointed tips

STEM
Mostly prostrate
Sometimes erect
Hairy and branched

TRUE LEAVES
Opposite
Hairy on both sides
Stalkless, dark green

FLOWERS
Five white two-lobed petals

HABITAT
Pastures, cultivated
fields, waste areas

NOTE
Prefers moist areas
Very hairy pointed leaves, hence
the name "mouse-eared"

CLEAVERS/SMOOTH BEDSTRAW

Galium aparine L.
G. mollugo L.

CLEAVERS: ANNUAL
Reproducing by seed

BEDSTRAW: PERENNIAL
Reproducing by seed or rhizomes

COTYLEDONS
Opposite
Oval to round

STEM
Square, sprawling
Cleavers: downward pointing
hairs on stem corners
Weak, reclining
Bedstraw: smooth, hairless

TRUE LEAVES
Narrow, oblong
In whorls of six to eight
Cleavers: rough hairs
Bedstraw: smooth

FLOWERS
Four small white petals
Produced on branched clusters
at stem ends and axils

HABITAT
Grain and forage fields, roadsides

NOTE
Cleavers' rough hairs
extremely clingy

COLTSFOOT

Tussilago farfara L.

Perennial
Reproducing by rhizomes
and seeds

Cotyledons
From seed: oblong, rounded base
From rhizomes: not apparent,
small, rounded, toothed leaves

Stem
Flower stems: erect, covered
with pink scales and white fluff
Leaf stems: emerge only after
flower stems die, red and
wooly, no scales

True Leaves
Large, long stalked
Round with toothed margins
Underneath has dense white hair

Flowers
Yellow heads like Dandelion

Habitat
Cultivated areas,
waste areas, roadsides

Note
Prefers moist soil

CORN SPURRY

Spergula arvensis L.

ANNUAL
Reproducing by seed

COTYLEDONS
Narrow, fleshy
Needle-shaped

STEM
Usually hairless
Sometimes sticky with
swollen nodes
Single or branched

TRUE LEAVES
Whorls of 6 to 30 on stem
Narrow, fleshy, needle-like
Rounded upper surface
Grooved lower surface

FLOWERS
Small, white
One flower per stalk on
upper part of plant

HABITAT
Grain and cultivated fields,
waste areas
Common in moist areas

NOTE
Not suseptible to 2,4-D
or MCPA
Horsetail similar but has scale-like
leaves and often three-sided
terminal branches

CRABGRASS, SMALL

Digitaria ischaemum
(Schreb.) Muhl.

SUMMER ANNUAL
Reproducing by seed

STEM
Erect, branched
Sprawling
Lower stem purple

TRUE LEAVES
Smooth
Tuft of hairs at base of
lower leaves
No auricle
Membranous ligule

FLOWERS
Branched panicle
Flowers from July to September
Forked, finger-like stalks

HABITAT
Cultivated fields,
waste areas, roadsides

NOTE
Large crabgrass is similar except it
is hairy and larger
Often the first grass to escape
control of atrazine treated fields
Stems root at lower nodes

CUDWEED, LOW

Gnaphalium uliginosum L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Linear shape

STEM
Branched from base
Covered with white wooly fuzz
Short, prostrate

TRUE LEAVES
Alternate, narrow, linear
Mostly covered with white, wooly fuzz
Lower leaves may be hairless

FLOWERS
Densely clustered at ends of branches or in leaf axils
Mostly white
Surrounded by light brown scales

HABITAT
Cultivated fields, pastures, roadsides

NOTE
Prefers damp, acid soils

DANDELION

Taraxacum officinale Weber

PERENNIAL
Reproducing by seed
or root fragments

COTYLEDONS
Thin, not fleshy
Margins may be smooth
but varies

STEM
Unbranched, leafless
Hollow with milky sap
Flower stalk

TRUE LEAVES
Basal leaves only
Forming a rosette
Long with coarsely
toothed margins
Milky sap present
Triangular lobes on each
side of leaf
Teeth point toward base

FLOWERS
Bright yellow
Found at terminal end of stem

HABITAT
Cultivated fields, pastures,
hayfields, roadsides

NOTE
Plant parts used for food,
drink, medicine

FIELD VIOLET

Viola arvensis Murr.

SUMMER OR WINTER ANNUAL
Reproducing by seed

COTYLEDONS
Oval, broad

STEM
Erect, short
Spreading
With or without hairs, hollow

TRUE LEAVES
Alternate
Young plants: rounded
Scalloped edges, long stalks
Older plants: oblong
Round-toothed,
Leafy appendage at each node

FLOWERS
Solitary, white with pale
yellow or purple markings

HABITAT
Grain crops, cultivated fields,
pastures, waste area

NOTE
Flower similar to bedding plant
pansy but much smaller

FLEABANE, ANNUAL

Erigeron annus (L.) Pers.

SUMMER ANNUAL, SOMETIMES BIENNIAL

COTYLEDONS
Round, short-stalked

STEM
Erect with spreading short hairs
Branched above

TRUE LEAVES
Alternate, hairy
Rosette forms first
Basal and lower leaves:
coarsely toothed,
Narrow, tapering to a long stalk
Middle and upper leaves: narrower,
Often entire
Short-stalked or stalkless

FLOWERS
Resemble daisies except smaller
and more numerous
White, may have pink or blue tinge
Found in clusters at terminal ends

HABITAT
Cultivated fields, pastures,
meadows, waste places, roadsides

NOTE
Name derived from belief that
dried flowers would get rid
of fleas from a home

FOXTAIL, GREEN/YELLOW

Setaria viridis (L.) Beauv.
S. glauca (L.) Beauv.

SUMMER ANNUAL
Reproducing by seed

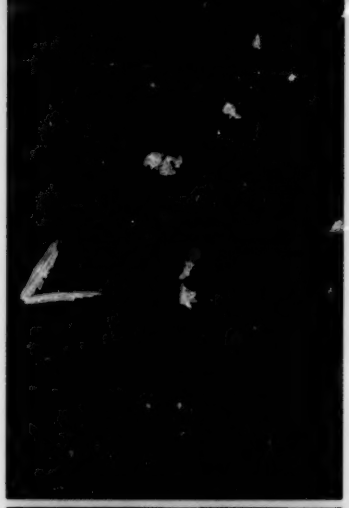
STEM
Erect or spreading

TRUE LEAVES
No auricle
Green Foxtail:
Young plant leaves may have hairy upper leaves.
Surface and margins of leaves rough to touch
Ligule has a fringe of hairs
Yellow Foxtail:
Distinguished from green foxtail by having numerous long, kinky hairs extending from leaf base near stem

FLOWERS
Dense spike at end of stem
Green foxtail: seeds yellowish brown
Yellow foxtail: seeds yellow

HABITAT
Grain fields, waste areas, roadsides

NOTE
Grows in all soil textures



GOLDENROD

Solidago spp.

PERENNIAL
Reproducing by seed
and rootstalk

COTYLEDONS
Small
Spoon-shaped

STEM
Erect, not branched
Smooth near base
Downy above

TRUE LEAVES
Long, narrow
Tapering to a long point
Sharply toothed and hairy
Three-veined

FLOWERS
Small, numerous
Yellow in color
On short stalks at top of plant

HABITAT
Meadows, pastures, old fields

NOTE
Goldenrod does not usually
persist under cultivation
There are many different
species of goldenrod.

GROUNDSEL, COMMON

Senecio vulgaris L.

SUMMER OR WINTER ANNUAL
Reproducing by seed

COTYLEDONS
Linear shape

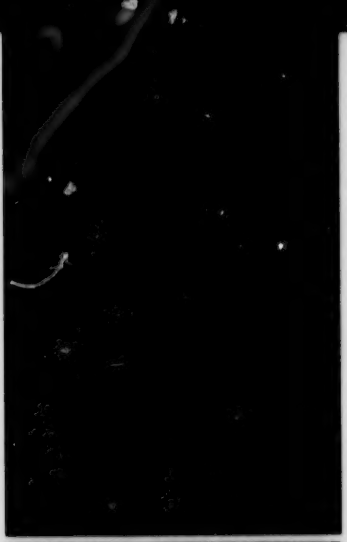
STEM
Erect, often branched
fleshy, hollow

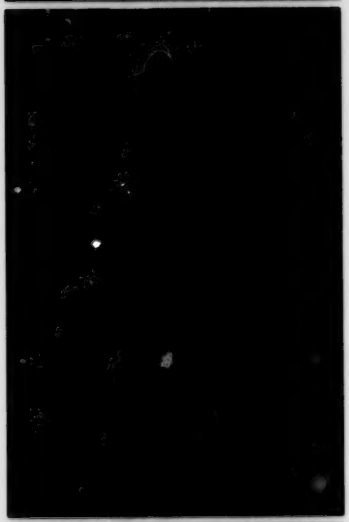
TRUE LEAVES
Alternate
Irregular leaf shape
Upper leaves clasp stem
Lower leaves stalked
Staircase-like toothed margins

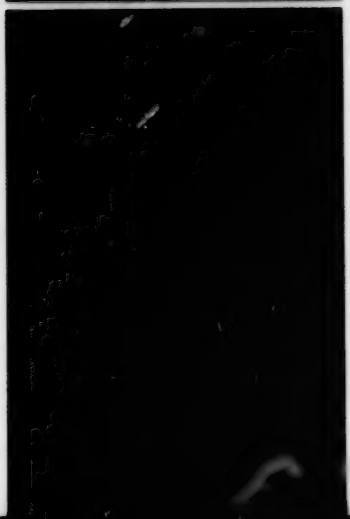
FLOWERS
Yellow cylindrical heads
at end of branches
Smooth black bracts found at the
bottom of the flower heads

HABITAT
Cultivated fields, roadsides,
waste areas

NOTE
Seeds remain viable in the
soil for many years







HAWKWEED, MOUSE-EARED

Hieracium pilosella L.

PERENNIAL
Reproducing by seeds
and runners

COTYLEDONS
Round to oval

STEM
Erect, leafless
Hairy
Leafy stolons, milky sap

TRUE LEAVES
Forming rosette
No stem leaves
Underside, white, woolly
Basal club shaped leaves only

FLOWERS
Yellow
Similar to dandelions
One per stem

HABITAT
Pastures, roadsides, old fields

NOTE
Prefers acid soils
Differs from Devil's
Paintbrush by having only one
flower per stem
Has above-ground leafy runners
Many types of hawkweed

HEMPNETTLE

Galeopsis tetrahit L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Round to oval with distinct
notched tip

STEM
Square and hairy
Simple or branched
Erect, bristly

TRUE LEAVES
Opposite
Oval with large, rounded
teeth on both sides
Stalked, hairy prominently veined

FLOWERS
Short, dense
White, pink and purple
Clustered at stem joint
Petals joined and two-lipped

HABITAT
Grain fields, gardens pastures,
waste areas

NOTE
Resistant to 2,4-D

HORSETAIL, FIELD

Equisetum arvense L.

PERENNIAL
Reproducing by spores
and rhizome sections

COTYLEDONS
None, sends up two different
types of stems (vegetative
and reproductive)

STEM
Reproductive: early May
White to light brown, hollow
Jointed stems with nodes
surrounded by yellowish-brown
sheaths with dark brown teeth
Tip has brownish cone-shaped
spike containing spores
Vegetative: slender, green
Wiry with whorled branches
at each node
Stems easily pulled apart at nodes
and can be pushed back together

TRUE LEAVES
Green, linear, jointed
Whorled with six to eight
branches at each node

FLOWERS
Absent
Spore-producing cone at end of
reproductive stem

HABITAT
Poorly drained, sandy or
gravelly soils
Cultivated fields

NOTE
Intense competitor
Poisonous to livestock and may
be more poisonous in hay than in
the field

LADY'S THUMB

Polygonum persicaria L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Thick, narrow
Short with rounded tips

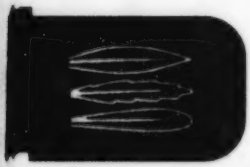
STEM
Erect, reddish
Swollen nodes
Smooth
Usually branched
Membranous leaf sheath
at stem joint

TRUE LEAVES
Alternate
Long, narrow
Triangular dark spot in
center of leaf
Sparsely hairy on veins
and margins
Smooth edges

FLOWERS
Pinkish
Clustered on end of stalk
arising from stem/leaf joint

HABITAT
Grain fields, waste areas,
cultivated fields

NOTE
Resistant to 2,4-D and MCPA
Green smartweed is similar
in appearance



LAMBSQUARTERS

Chenopodium album L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Fleshy, narrow
Rounded tip
Pinkish underside

STEM
Erect, grooved and often branched

TRUE LEAVES
Alternate
Broadly toothed,
Diamond or triangular shaped, long-stalked
Partially covered with whitish grey mealy particles
Underside of young leaves pinkish

FLOWERS
Green clusters at end of stem or where leaf joins the stem
No petals

HABITAT
Grain fields, forages, cultivated fields

NOTE
Seeds remain viable in soil for many years

MILKWEED, COMMON

Asclepias syriaca L.

PERENNIAL
Reproducing by seed and
creeping roots

COTYLEDONS
Longer than wide
Shiny under-surface
White granules above

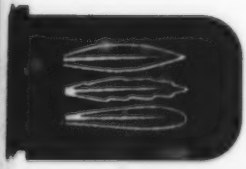
STEM
Erect, thick, hairy
Usually unbranched
Milky sap

TRUE LEAVES
Opposite
Oblong
Upper surface with hairs
Under surface soft and wooly
Prominant midvein beneath
Entire on short thick stalk

FLOWERS
Dense ball-like cluster at top
of stem and upper leaf axils
White or purple
Five petals bent downward
on stalk

HABITAT
Pastures, waste areas

NOTE
Forms warty-like pods that
open in the fall



MUSTARD, WORMSEED

Erysimum cheiranthoides L.

Summer or Winter Annual
Reproducing by seed

Cotyledons
Spoon-shaped to oval,
tapering to stalk
Notched tip at terminal end

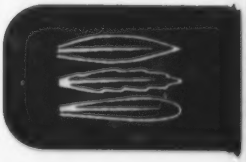
Stems
Erect, rough due to
two-branched hairs
Single or double

True Leaves
Alternate
Nearly linear
Tapered at both ends
Three-branched hairs on leaves
Margins wavy

Flowers
Small, pale yellow four petals
Pods erect nearly parallel to stem

Habitat
Cultivated fields, grain fields,
waste areas

Note
Plants often purplish at maturity
Mustard seed oil in feed
is poisonous



OX-EYE DAISY

Chrysanthemum leucanthemum L.

PERENNIAL
Reproducing by seed and short root stalks

COTYLEDONS
Oblong

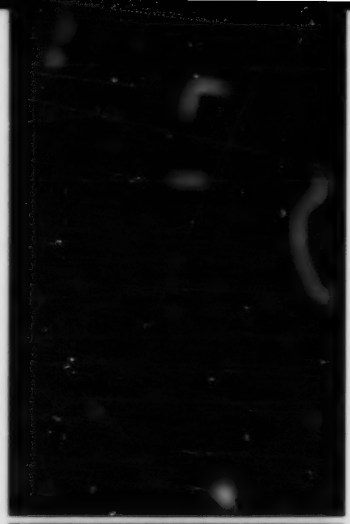
STEM
Erect, emerging from rosette
Simple or branched

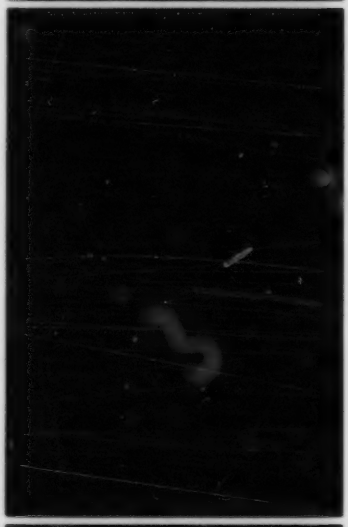
TRUE LEAVES
Stem leaves alternate, deeply cut, clasping
Basal leaves long stalked, broadly spoon-shaped

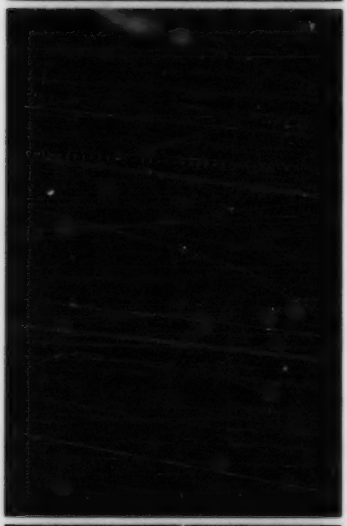
FLOWERS
White petals with yellow disk center
On long stalks
Solitary flower heads

HABITAT
Cultivated fields, pastures, waste areas

NOTE
May give undesirable flavor to milk if grazed by dairy cows
No flowers produced the first year







PINEAPPLEWEED

Matricaria matricarioides (Less.) Porter

SUMMER ANNUAL
Reproducing from seed

COTYLEDONS
Small, narrow
Fused together
Pointed

STEM
Smooth, erect
Branched

TRUE LEAVES
Alternate
Finely divided
Carrot-like

FLOWERS
Cone or egg-shaped
Yellowish green
No petals present

HABITAT
Grain fields, forages, waste areas, roadsides

NOTE
Found on disturbed or packed soils
Pineapple aroma from leaves when crushed

PLANTAIN, BROAD-LEAVED

Plantago major L.

PERENNIAL
Reproducing by seed

COTYLEDONS
Oval to egg shape with blunt tips
Prominent veins

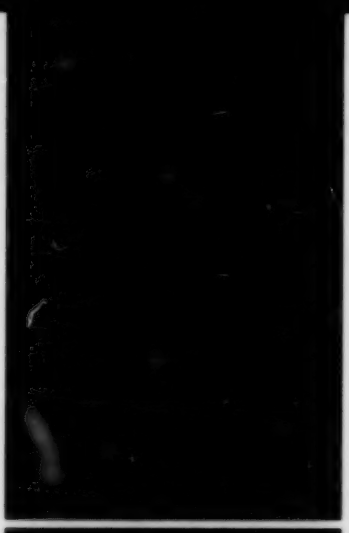
STEM
Leafless

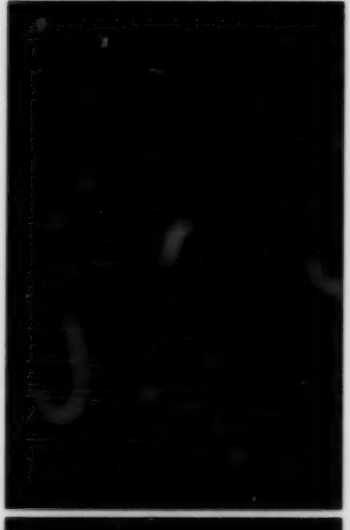
TRUE LEAVES
Basal rosette
Large, broad
Thick leaf stalks
Strongly ribbed

FLOWERS
Numerous, green
Long spikes

HABITAT
Cultivated fields, barnyards
Grows in adequate moisture

NOTE
Pollen may cause hayfevers
Narrow leaf plantain is similar but has narrow leaves and a shorter flower spike





PURSLANE

Portulaca oleracea L.

Summer Annual
Reproducing by seed

Cotyledons
Oval, thick
Short, fleshy

Stem
Thick, fleshy
Reddish, prostrate, spreading

True Leaves
Thick, fleshy, oval
Mostly alternate
Crowded close together
Rounded, entire

Flowers
Small, inconspicuous
Found in leaf axils
Pale yellow

Habitat
Cultivated fields, waste areas

Note
Not shade tolerant, therefore
not a problem in grain
Flowers only open in the sun
Forms large mats

QUACKGRASS

Agropyron repens (L.) Beauv.

PERENNIAL
Reproducing by seeds and
rhizome buds

STEM
Smooth, hollow

RHIZOMES
White, cordlike, scaly,
many buds

TRUE LEAVES
Linear
Clasping auricles
Slightly hairy on top of leaf
Fringed or entire ligule

FLOWERS
Spike with one row of spikelets
on each side of stem

HABITAT
Cultivated fields, pastures,
waste areas

NOTE
A single plant may produce 135
metres of rhizomes per year
Complete control can be difficult
to obtain

RAGWEED, COMMON

Ambrosia artemisiifolia L.

ANNUAL
Reproducing by seed

COTYLEDONS
Rounded, thick
Short, broadly club-shaped

STEM
Erect, often hairy
Branched
Bushy

TRUE LEAVES
Finely divided, fernlike, deeply lobed
Lower leaves opposite but become alternate

FLOWERS
Numerous, green
Clustered at branch tips

HABITAT
Grain fields, waste areas, roadsides, cultivated fields, disturbed pastures

NOTE
Common cause of hayfever

REDROOT PIGWEED

Amaranthus retroflexus L.

ANNUAL
Reproducing by seed

COTYLEDONS
Long, narrow and pointed
Purplish color on underside

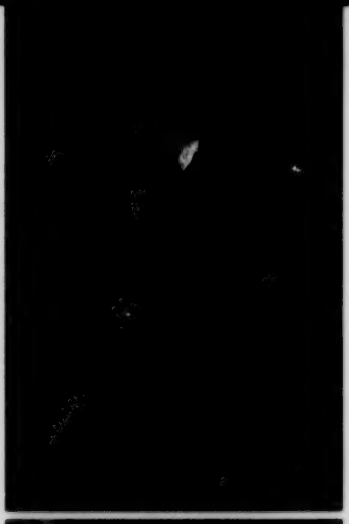
STEM
Erect, hairy
Branched
Base of stem is red in
young plants

TRUE LEAVES
Alternate
First true leaves often
have notched tips
Pointed, oval
Prominate white veins
Long stalked
Entire margin

FLOWERS
Green, no petals
Densely clustered at ends
of branches

HABITAT
Cultivated fields, waste areas

NOTE
Root is usually reddish-pink



SCENTLESS CHAMOMILE/ STINKING MAYWEED

Matricaria maritima L.
Anthemis cotula L.

SUMMER OR WINTER ANNUAL OR SHORT LIVED PERENNIAL
Reproducing by seed

COTYLEDONS
Scentless: small, rounded
Stinking: club-shaped

STEMS
Erect
Branched from middle up
Scentless: smooth
Stinking: finely hairy

TRUE LEAVES
Alternate
Finely divided
Carrot-like

FLOWERS
Resemble daisies

HABITAT
Grain and forage fields, waste areas

NOTE
Stinking mayweed has an odor when crushed

SHEEP SORREL

Rumex acetosella L.

PERENNIAL
Reproducing by seed and rhizomes

COTYLEDONS
Oblong, thick

STEM
Erect, jointed, wiry
Often red-tinged

TRUE LEAVES
Seedling rosette
Arrow-shaped
Lobed at basal end of leaf
Upper leaves slender and stalkless, often without lobes

FLOWERS
Small clusters along terminal ends of stem, no petals
Orange-reddish or green

HABITAT
Pastures, roadsides

NOTE
Presence often indicates poor soil fertility (acid soil)

SHEPHERD'S-PURSE

Capsella bursa-pastoris (L.) medic

SUMMER OR WINTER ANNUAL
Reproducing by seed

COTYLEDONS
Rounded
Small and stalked

STEM
Erect, simple or branched
Covered with grey hairs

TRUE LEAVES
Forms a rosette
Dandelion-like leaves
Upper surface hairy
Mature leaves deeply lobed with triangular terminal section
Stem leaves alternate, stalkless and clasp the stem

FLOWERS
Four white petals
Clustered at end of short stalks
Triangular seed pods with notch at blunt end
The stem elongates after the seed pods develop along the stem

HABITAT
Cultivated fields, roadsides, waste areas

NOTE
Seed pods shaped like pouches shepherds used, hence the name

STITCHWORT, GRASS-LEAVED

Stellaria graminea L.

PERENNIAL
Reproducing by seed and rooting nodes along horizontal stem

COTYLEDONS
Longer than wide
Tapered to short stem

STEM
Square, branched
Prostrate

TRUE LEAVES
Opposite
Seedling leaves spoon-shaped
Narrow, stalkless
Tapering towards tip
Entire

FLOWERS
Five white petals
Long flowering stalks

HABITAT
Cultivated fields, pastures, grain fields, waste areas

NOTE
Growth habit similar to chickweed

TANSY RAGWORT

Senecio jacobaea L.

BIENNIAL OR SHORT LIVED PERENNIAL
Reproducing by seed

COTYLEDONS
Broadly oval
Rounded at base

STEM
Wooly near top
Branched above middle
Usually hairless

TRUE LEAVES
Rosette first year
Rosette and basal leaves stalked
Stem leaves small and stalkless
Alternate, dark green, deeply irregularly lobed

FLOWERS
Golden yellow
Clustered on branch ends
Flat-topped

HABITAT
Pastures, hayfields, roadsides, waste areas

NOTE
Poisonous to livestock

THISTLE, BULL

Cirsium vulgare (Savi) Tenore

Biennial
Reproducing by seed

Cotyledons
Spoon-shaped
Fleshy

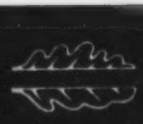
Stem
Erect, tall,
Branched, hairy
Prickly wings along stem with
long prickles at tip

True Leaves
Rosette first year, deeply
lobed with sharp spines at
each tip of lobe
Above surface spiny
Under surface white and hairy
Small spines along margins

Flowers
Purple, tubular
Surrounded by hairy bracts

Habitat
Pastures, roadsides waste areas

Note
Only thistle to have spiny
upper leaf surface



THISTLE, CANADA

Cirsium arvense (L.) Scop.

Perennial
Reproducing by seed and horizontal underground roots

Cotyledons
Oval, fleshy
Smooth edges

Stems
Erect, smooth
Usually branched

True Leaves
Alternate
Oblong, irregularly lobed, spiny toothed
Margins with triangular indents and spines
Upper leaves stalkless clasp stem
Lower leaves sometimes stalked

Flowers
Purplish or pinkish
Ray florets absent
Small, numerous clusters

Habitat
Cultivated fields, pastures, roadsides

Note
Spreading reproductive rootstalks make control in cultivated fields difficult
Most common thistle

THISTLE, PERENNIAL SOW

Sonchus arvensis L.

Perennial
Reproducing by seed
and rootstalks

Cotyledons
Oval, fleshy

Stem
Erect, branching near top
Hairless, hollow
Milky sap in stem

True Leaves
Alternate bright, shiny green
Upper leaves clasp stem
Irregularly lobed
Weak, prickly margins

Flowers
Yellow, resemble dandelion
flowers

Habitat
Grain fields, cultivated fields,
pastures, roadsides

Note
Annual sow thistle very similar
but does not have
underground rhizomes

TOADFLAX, YELLOW

Linaria vulgaris Mill.

PERENNIAL
Reproducing by seed and
creeping rootstalks

COTYLEDONS
Oval, widest at base, tapering
to a distinct bump at tip

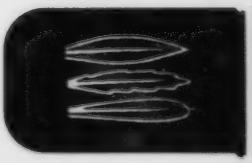
STEM
Erect, smooth
Singular or branching

TRUE LEAVES
Numerous, stalkless, alternate but
may appear whorled
Pale green
Hairless, entire

FLOWERS
Clustered at end of
stem branches
Bright yellow with orange center
and long spur at base
Short-stalked

HABITAT
Grain fields, pastures, roadsides,
waste areas

NOTE
Usually found in clumps
Popular flower for honeybees



VETCH, TUFTED

Vicia cracca L.

PERENNIAL
Reproducing by seed and
underground rootstock

COTYLEDONS
Linear shaped

STEM
Weak, wiry, creeping, climbing

TRUE LEAVES
Alternate
Leaves with 8 to 12 pairs
of small, narrow leaflets
along the stalk
Tendrils at end of stalks

FLOWERS
Numerous
Bluish purple on one side of stalk
Pea-like
Later form pods

HABITAT
Cultivated fields, pastures,
waste areas

NOTE
Frequently twines on other plants

WILD BUCKWHEAT

Polygonum convolvulus L.

SUMMER ANNUAL
Reproducing by seed

COTYLEDONS
Narrow, long
Positioned 120° angle from each other

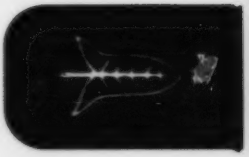
STEM
Swollen joints with papery sheath at each joint
Viny growth, often red

TRUE LEAVES
Alternate
First leaves triangular shape
Later leaves have arrow-shaped pointed tips

FLOWERS
Small, no petals, greenish white
Grows from leaf axils or stem tips

HABITAT
Grain and cultivated fields

NOTE
Some resistance to 2, 4-D and MCPA
Seeds quite large and may be found in grain



WILD CARROT

Daucus carota L.

BIENNIAL
Reproducing by seed

COTYLEDONS
Long, narrow
Tapering at base and tip

STEM
Erect in second year branched,
hollow bristly

TRUE LEAVES
Rosette in first year
First leaves have three main divisions
Finely divided
Lacy, hairy

STEM LEAVES
Alternate
Leaf sheath is broad and encircles
stem at base
Similar to rosette leaves, except
smaller and shorter-stalked

FLOWERS
White with central flowers
often purplish
Large umbel made up of
smaller umbels
Whorl of three to five bracts
at base of each umbel
After flowering, umbel closes
forming a "bird's nest"
Seeds are prickly

HABITAT
Old fields, fencerows,
uncultivated fields

NOTE
Stems, leaves and roots
have a carrot odor
Cultivated carrot derived from
wild carrot

WILD OATS

Avena fatua L.

SUMMER ANNUAL
Reproducing by seeds

STEM
Erect, hollow, smooth
Dark colored nodes

TRUE LEAVES
Flat, no auricles
Tapered to a long, thin point
with light-colored mid-vein
Leaf sheath slightly hairy
Margins of collar hairy
Counter-clockwise twist of leaves

FLOWERS
Large panicle with sender
branches
Base of seed has a tuft of hairs
and a horseshoe-shaped scar
Twisted, bent awn

HABITAT
Grain and cultivated fields

NOTE
Distinguished from tame oats
by its greater height and
hairy, dark colored seed with
a twisted black awn
Very competitive with cereals

WILD RADISH

Raphanus raphanistrum L.

Summer Annual
Reproducing by seed

Cotyledons
Kidney-shaped

Stem
Erect, with short stiff hairs
Branched

True Leaves
Alternate
Stiff hairs present
Toothed margins
Rough texture
Lower leaves deeply lobed
at basal end
Stalked
Upper leaves stalkless, more
coarsely toothed

Flowers
Four yellow petals clustered
at end of long stalks
Often has purplish veins
Long pods have constrictions
between each seed

Habitat
Cultivated fields, grain fields,
forages, waste areas

Note
Wild mustard similar except pods
split lengthwise and do not have
constrictions between the seeds

WITCHGRASS

Panicum capillare L.

SUMMER ANNUAL
Reproducing by seed

STEM
Erect or horizontally spreading

TRUE LEAVES
Leaf blade and sheath very hairy
Bristle-like hairs
No auricle
Ligule has a dense fringe of hair

FLOWERS
Large, loose panicle with
numerous branches

HABITAT
Cultivated fields, waste areas

NOTE
Distinguished from fall panicum
by its densely hairy leaves
When mature, panicle breaks off
and blows about in the wind,
dropping seeds

YARROW

Achillea millefolium L.

PERENNIAL
Reproducing by seed and
creeping rhizomes

COTYLEDONS
Narrow

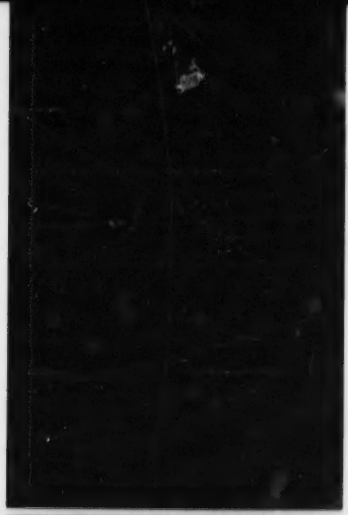
STEM
Erect, covered with fine
wooly hairs

TRUE LEAVES
Feather-like with grayish-green
fine wooly hairs
Lower leaves form dense patches
Long-stalked
Upper leaves alternate,
and are stalkless

FLOWERS
Five white petals, numerous
in dense flat-topped or
rounded clusters
Flowers from July to October

HABITAT
Pastures, waste areas

NOTE
Has a sage-like odor
Does not persist in
cultivated fields
Prefers acidic soils



YELLOW ROCKET

Barbarea vulgaris R. Br.

Biennial or Perennial
Reproducing by seed

Cotyledons
Round to oval
Long-stalked

Stem
Branched from base
Erect

True Leaves
Rosette
Dark green
Lower leaves: stalked
Upper leaves: coarsely toothed, clasp stem
Smaller than lower leaves
Alternate

Flowers
Clustered at end of branches
Golden yellow

Habitat
Hayfields, pastures, roadsides, increasing in grainfields

Note
Distinguished from other mustards by its glossy dark green leaves and very early flowering in the spring

GLOSSARY

Alternate leaves – single leaves attached at the nodes on the stem but not opposite one another.

Auricle – appendage that wraps around or projects past the stem of some grasses.

Awn – stiff bristle-like appendage arising from the grain seed.

Axil – the angle that is formed between the branch or leaf and the stem.

Basal leaves – leaves attached to the base of the plant.

Blade – the expanded, usually flat, part of the leaf.

Bracts – scale-like leaves associated with the flower.

Capsule – seed case.

Cotyledon – the first two leaves to appear above the ground.

Entire – the edge of the leaf having no teeth or divisions. (completely smooth).

Ligule – flap of membraneous tissue or fringe of hairs on the inside of a grass leaf where the blade joins the stem.

Linear – long, narrow leaves with parallel sides.

Lobe – partial, usually rounded, division of the leaf.

Margin – the edge of the leaf.

Mid-vein – the central vein of the leaf.

Node – swelling in the stem where the leaves or branches are attached.

Oblong – longer than broad with rounded ends and nearly parallel sides.

Opposite leaves – two leaves, attached at nodes on the stem, directly opposite each other.

Panicle – loose irregular cluster of stalked flowers.

Prostrate – lying flat on the ground.

Ray Floret – strap-shaped petal.

Rhizome – underground horizontal stem.

Rosette – a flat circular cluster of leaves formed at the ground surface.

Spike – flowers without a stalk growing up an elongated stem.

Spore – microscopic reproductive cells of ferns and horsetail.

Stalk – stem.

Stolon – trailing above-ground stem, rooting at the nodes.

Toothed – pointed part of leaf margin.

True leaves – leaves that develop after the cotyledons.

Umbel – group of flowers with stalks arising from the same point (like ribs of an umbrella).

Whorl – three or more leaves attached to the stem at the same point.